

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

POLYPODIUM HESPERIUM, A NEW FERN FROM
WESTERN NORTH AMERICA.*

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The prospect before one attempting to bring anything like order out of the substantial aggregate known as *Polypodium vulgare* is far from encouraging. Much uncertainty exists even as to the typical form of the species, and it is certainly to be doubted whether the common form of the eastern United States truly represents the species long ago characterized upon European material as *vulgare*. At one time Hooker regarded our eastern representative of varietal rank and briefly characterized it as var. *Americanum*;† but he seems to have disregarded it in his later work. Much confusion has arisen also as to the identity of his var. *occidentale*† founded upon specimens collected at the mouth of the Columbia and at Sitka. So far as the description goes it applies well to the plant later described by Kellogg as *P. falcatum*‡ and again by Eaton as *P. glycyrrhiza*,§ but it may with equal propriety be referred to another form of the Pacific coast especially abundant in Alaska and the Aleutian Islands which is rather coriaceous in texture and in

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†Flora Bor. Am. 2:258. 1840.

‡Proc. Cad. Acad. Sci. I, 1:20. 1854.

§Am. Journ. Sci. II, 22:138. 1856.

some cases serrated as the variety was originally described. Be that as it may, the species here described as new is clearly not closely related to either of Hooker's "varieties." It comprises the common form of the whole mountain-region of the western United States, and is essentially different from the material of eastern North America. I propose the name:

Polypodium hesperium.

Rhizome rather stout, firm, creeping, chaffy with dark brown scales; fronds 4 to 13 inches long, clustered; stipe 1 to 5 inches long, smooth, decidedly stramineous; lamina 3 to 8 inches long, 1 to 1½ inches broad, linear-oblong, apical portion usually entire and acuminate, texture thinner than in *vulgare*, the under surface sparsely glandular; pinnae mostly alternate, 6'' to 10'' long, 3'' to 5'' broad, elliptical or somewhat spatulate, always narrowest at base, broadly rounded at tip; margins obscurely (or, less often, decidedly) crenate; veins forking two or usually three times, veinlets free; sori very large, oval, borne midway between the midvein and margin, at the end of the lowermost veinlet; spores greenish-yellow, smoothish.

Type specimen, No. 303,284 in the U. S. National Herbarium, Smithsonian Institution, collected by M. W. Gorman, No. 642, August 21, 1897, in Coyote Cañon, Lake Chelan, Washington. The geographical distribution of the species embraces the territory from the Rincon and San Francisco Mountains in Arizona to Washington and British Columbia, Idaho and Montana. Within this region *vulgare* does not occur.

It is doubtful whether *hesperium* is very closely related to the eastern *vulgare*. Its affinities seem rather to lie with the *Polypodiums* of the Pacific coast, one especially notable feature which it possesses in common with them being the hard licorice-like rootstock. The rhizomes of the eastern *vulgare*, on the other hand, are not only spongy and quite acrid but more or less unsavory in taste. The chaff of *hesperium* too is very much darker than that of the material of the eastern United States and the stipes are much more thickly clustered. The most prominent feature is the very characteristic shape of the pinnae, often half as broad as long.

The name is chosen in allusion to the occurrence of the species in western North America. It is barely possible, but hardly probable, that the species here described is identical with the var. *rotundatum* of Milde, which is however antedated by the *Polypodium rotundatum* of Sieber, applied to a West Indian species.

Nearly fifty specimens of this species have been examined, from the herbaria of the National Museum, Yale University, the California Academy of Sciences, Professor L. M. Underwood, Mr. B. D. Gilbert, and Mr. J. B. Flett. I desire to express my thanks to the curators of the public herbaria and to the gentlemen above mentioned, especially to Mr. Flett who has furnished an excellent suite of specimens from Washington, ranging from altitudes of 3600 to 5500 feet.

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